**Results:** Statistical analysis conducted on the difference between each ambulatory measurement and the baseline value within subject, revealed a significant effect of intervention on 24-h systolic ambulatory BP ($p < 0.001$). In particular at the 6-month visit the Intervention group had on average a 24-h systolic BP 4.9 mmHg (95% CI 1.5–8.4 mmHg) and 4.0 mmHg (95% CI 1.1–6.8 mmHg) lower that the Control-M and Control-R groups respectively. Mixed model analysis revealed that intervention was associated with a significant reduction of both day-time (08:00–20:00 h) ($p < 0.02$) and night-time (01:00–06:00 h) ($p < 0.0001$) systolic BP values. The 24-h diastolic BP changes displayed a similar trend of reduction but did not reach statistical significance. Heart rate did not show any time-related change. Between-group differences were not affected by covariate analysis that considered age, body mass index, medication status and gender.

**Conclusions:** The present study shows that daily sessions of music-guided slow breathing exercises may reduce 24-h systolic ambulatory BP in hypertensive subjects.

## 5A.8 NIGHTTIME SYSTOLIC BLOOD PRESSURE AREA UNDER THE CURVE PREDICTS CARDIOVASCULAR MORTALITY: DUBLIN OUTCOME STUDY

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**Background:** A number of studies have shown that nighttime systolic blood pressure (SBP) is a strong predictor of cardiovascular risk. These are mostly based on mean pressure. We studied the predictive value of the nighttime SBP area under the curve (AUC) in a large cohort of referred hypertensive patients.

**Methods:** At baseline, when not on antihypertensive medication, 11,291 patients (5326 male, mean age 54.6 years) underwent ambulatory BP monitoring. Using a computerised national registry of death mortality outcome was ascertained. After a mean follow-up of 5.3 years there were 566 cardiovascular deaths. SBP AUC was calculated using fixed time intervals.

**Results:** In a Cox proportional-hazard model nighttime SBP AUC was an independent predictor of cardiovascular mortality. The resultant unadjusted hazard ratios (HR) for a 1 SD increase in nighttime SBP AUC for total cardiovascular, stroke and cardiac mortality was 1.67 (1.58–1.76), 1.75 (1.59–1.93) and 1.63 (1.53–1.75) respectively. After adjustment for sex, age, smoking history, diabetes, previous cardiovascular events, BMI, and nighttime SBP the corresponding HRs were 1.51 (1.14–2.01), 1.41 (0.81–2.48) and 1.59 (1.12–2.26) respectively.

**Conclusions:** Nighttime SBP AUC is a significant predictor of cardiovascular mortality independent of other risk factors in individuals with hypertension.

## 5A.9 ACCURACY OF DIFFERENT TYPES OF BLOOD PRESSURE MEASURING DEVICES AT HIGH AND VERY HIGH ALTITUDE – EVIDENCE FROM THE HIGHCARE2008 PROJECT

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**Background:** Blood pressure (BP) increases at high altitude, due to sympathetic activation. Its proper assessment may be prevented by the possible inaccuracy of BP measuring devices in this setting.

**Aim** of this study was to compare the values provided by different BP measuring devices at high and very high altitude, taking the mercury manometer as the standard reference.

**Methods:** In 43 healthy, normotensive (age 39.9±10, 29 M, 14 F) participants of HIGHCARE2008 project, duplicate BP measurements were obtained in random order with mercury (MER), aneroid (ANE) and oscillometric (Microlife BP A100Plus) (OSC) devices at Namche Bazaar (NB, 3500 m a.s.l.) and at Mt. Everest Base Camp (BC, 5400 m a.s.l.). Accuracy of ANE and OSC devices was verified at sea level versus MER device.

**Results:** At NB mean BP measured by MER, ANE and OSC devices was, respectively: 124.1±13, 121.1±11 and 124.4±16 mmHg for systolic and 82.6±11, 80.7±9 and 80.8±13 mmHg for diastolic (all NS). At BC it was 128.1±11.6, 123.2±12.6 and 128.5±11.4 mmHg ($p < 0.001$ for ANE vs. both MER and OSC) and 85.7±9.3, 81.7±10.8 and 84.4±9.6 mmHg

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# ABSTRACT BOOK

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